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A Survey of the Extent of Use of Curriculum I.12A (Grade 7 Mathematics) in 1964-65

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I The History of the Development of and Preparation for the Use of Curriculum I.12A

1. In early 1963, a Curriculum Committee was established by the Minister for the revision of the Mathematics Courses of the Intermediate Division, Grades 7 to 10. In October of 1963, this Committee made recommendations to the Minister on a new course outline for Grade 7, contained in Curriculum I.12A. This course outline was adopted by the Minister for optional use beginning in September 1964.

2. (a) On February 25, 1964, the optional condition was explained in a memorandum (1963-64:52) from Mr. H. E. Elborn, Deputy Minister of Education as follows:

> "A school principal may introduce the new course in some or all of the Grade 7 classes in his school, or he may decide to postpone introduction to some later date. This freedom of choice is a natural consequence of the need of some teacher preparation for understanding the new concepts in the course. No decision has been made as to when the Mathematics course now outlined in Curriculum I:1 will be withdrawn."

(b) On May 13, 1964, Memorandum 1 (g) from the Superintendent of Elementary Education announced the use of Curriculum I.12A (Mathematics Grade 7) as optional in Grade 8 provided:

(i) the pupils concerned had followed Curriculum I:1 in their Grade 7 year

(ii) it was the year when new approach mathematics was being introduced in (the Intermediate Division of) a school

(iii) three specified additional topics were covered (in addition to Curriculum I.12A)

3. Memorandum 1963-64:52 also indicated further plans of the Department in preparation for the new course:

> "It is recognized that new content and methods present certain problems in supervision of mathematics by the inspectors. To assist with this problem, the Department is making arrangements for several two-day conferences at certain of the Teachers' Colleges during the present school term for study of the Grade 7 Mathematics content. Each inspector and each Teachers' College master teaching mathematics will be given the opportunity to attend one of these conferences."

These two-day conferences were organized by the Elementary Education and Teacher Education Branches in March and April of 1964 at Toronto, London, North Bay, and Ottawa Teachers' Colleges. Instruction was led by Mr. J.F. Kinlin, Assistant Superintendent of Curriculum, and he was assisted by Mr. J. E. Smith, Assistant Superintendent of Professional Development, and by Messrs. Kenney, Cadwell, Morgan, Pipher, Archibald, Botly, Hodgson, Harrington, Shadbolt, McClure, and Hendren of the Teachers' Colleges.

4. The Department began the work of the in-service preparation of teachers of Grade 7 with a five-week summer course in the summer of 1963. The work of in-service preparation was carried on throughout the 1963-64 school year under the leadership of Mr. J. E. Smith with assistance by Mr. J. F. Kinlin and by various members of the Teachers' College staffs,chiefly those who had served on the 1963 summer course. In addition, after the two-day inspector conferences described above, several of the inspectors organized and led their own in-service programmes within their inspectorates using the study sheets specially designed by Mr. Kinlin which were provided to the inspectors at the conferences. The plan of in-service education has been continued by the 1964 five-week summer course and by innumerable in-service groups during 1964-65 organized by inspectors and by Ontario Teacher Federation groups.

II The Purpose of the Survey

The purpose of the survey was indicated to the inspectors in a Memorandum (No. 7: 1964-65: Elementary) of November 27, 1964, from Mr. G. L. Duffin, Superintendent of Elementary Education, which stated:

> "The inspectors are now being asked for certain information that will assist the Department in making a decision on the time of withdrawal of the mathematics courses in Curriculum I:1"

III The Design of the Questionnaire

1. The form of the questionnaire was as follows:

1. Name of Inspectorate: .....

.....

2. (a) Number of Schools in the Inspectorate with at least one Grade 7 class ..... _____

(b) Number of Schools in which Curriculum I:12A is being followed in at least one Grade 7 class ..... _____

3. (a) Approximate total Grade 7 enrolment in the Inspectorate.. _____

(b) Your estimate of the percent of this enrolment that is following Curriculum I:12A during 1964-65 ..... _____

(c) Your estimate of the percent of the Grade 7 enrolment of your inspectorate that would follow Curriculum I:12A during 1965-66 if it continues to be optional for that school year _____

4. (a) Approximate number of Grade 8 classes in your inspectorate _____

(b) Your estimate of the number of these Grade 8 classes that are following Curriculum I:12A (Grade 7 Mathematics) during 1964-65, under those special provisions that are indicated in Memorandum 1(g), May 1964 (or on page one of the Grade 8 course outline Curriculum I:12B) ..... _____

5. Remarks: _____

_____

_____

_____

_____

Date: _____ _____
Inspector

2. The time of the survey and the time given to the inspectors for completion of the questionnaire are indicated by the following items on Mr. Duffin's memorandum

   (a) The date of the memorandum: November 27, 1964.

   (b) The direction on the memorandum: "Each inspector in charge is asked to complete the enclosed questionnaire and return one copy to this office, as soon as possible, but not later than December 18, 1964".

3. The tolerances indicated for the completions are indicated by the wordings of the questions and by the following quotation from the covering memorandum:

   "4. The questionnaire has been constructed so that the information regarding the number of schools and of pupils enrolled may be obtained readily from Section C on Page Two of Form Stat 32 "Elementary School Principal's September Statistical Report". In addition, the words 'approximate' and 'estimate' have been used deliberately in order to make the completion easier".

4. Purposely, no direction was given as to completion the section of the questionnaire headed "Remarks".

IV Numerical Data Provided by the Questionnaires

1. Replies were received from all inspectorates* of the province. All items were completed for all inspectorates except in the case of Haldimand 1 where the inspector completing the questionnaire had only been in charge a short time (following the death of the previous inspector on November 27) and was not in a position to answer question 3(c).

2. Replies from each individual inspectorate and from inspectorate groups are indicated in Appendix A.

*"Inspectorate" is used throughout this report to mean an inspectorate area. Where many inspectors work together within a municipality, totals from individual inspectors are grouped under one "inspectorate". In those cases where inspectors inspect both public and separate schools, totals are combined within the "inspectorate" representing the greater number of pupils.

5. Remarks: _____

_____

_____

_____

_____

_____

_____

Date: _____ _____

Inspector

3. Totals for all schools of the province summarize as follows:

   (a) Of 4970 schools with at least one Grade 7 class, 3029 (61%) are using Curriculum I:12A in at least one Grade 7 class.

   (b) 74% of Grade 7 pupils are being given instruction during this current school year (1964-65) on the basis of Curriculum I:12A

   (c) 96% of Grade 7 pupils will be given instruction during 1965-66 on the basis of Curriculum I:12A (if the course remains optional for another year)

   (d) Of 6257 Grade 8 classes in the province, 2436 (39%) are being given instruction on the basis of Curriculum I:12A (plus the three additional topics).

4. 21 inspectorates had no Grade 7 pupils receiving instruction on the basis of Curriculum I:12A. 105 inspectorates had all pupils following Curriculum I:12A. The distribution of percent of pupils following the new course in 1964-65 is as follows:

Percent of Pupils on Curriculum I:12A in 1964-65	Number of Inspectorates
81% - 100%	146
61% - 80%	12
41% - 60%	17
21% - 40%	15
0% - 20%	50

5. 177 inspectorates indicate that 100% of pupils will be following Curriculum I:12A in 1965-66. Only 9 inspectorates forecast a participation by less than 50% of Grade 7 pupils. Distribution of percent of Grade 7 pupils forecast as following the new course in 1965-66 is as follows:

Percent of Pupils Forecast as following Curriculum I:12A in 1965-66	Number of Inspectorates*
81% - 100%	210
61% - 80%	11
41% - 60%	10
21% - 40%	7
0% - 20%	1

*Inspectorate #1 Haldimand not included as no forecast possible. See explanation given previously.

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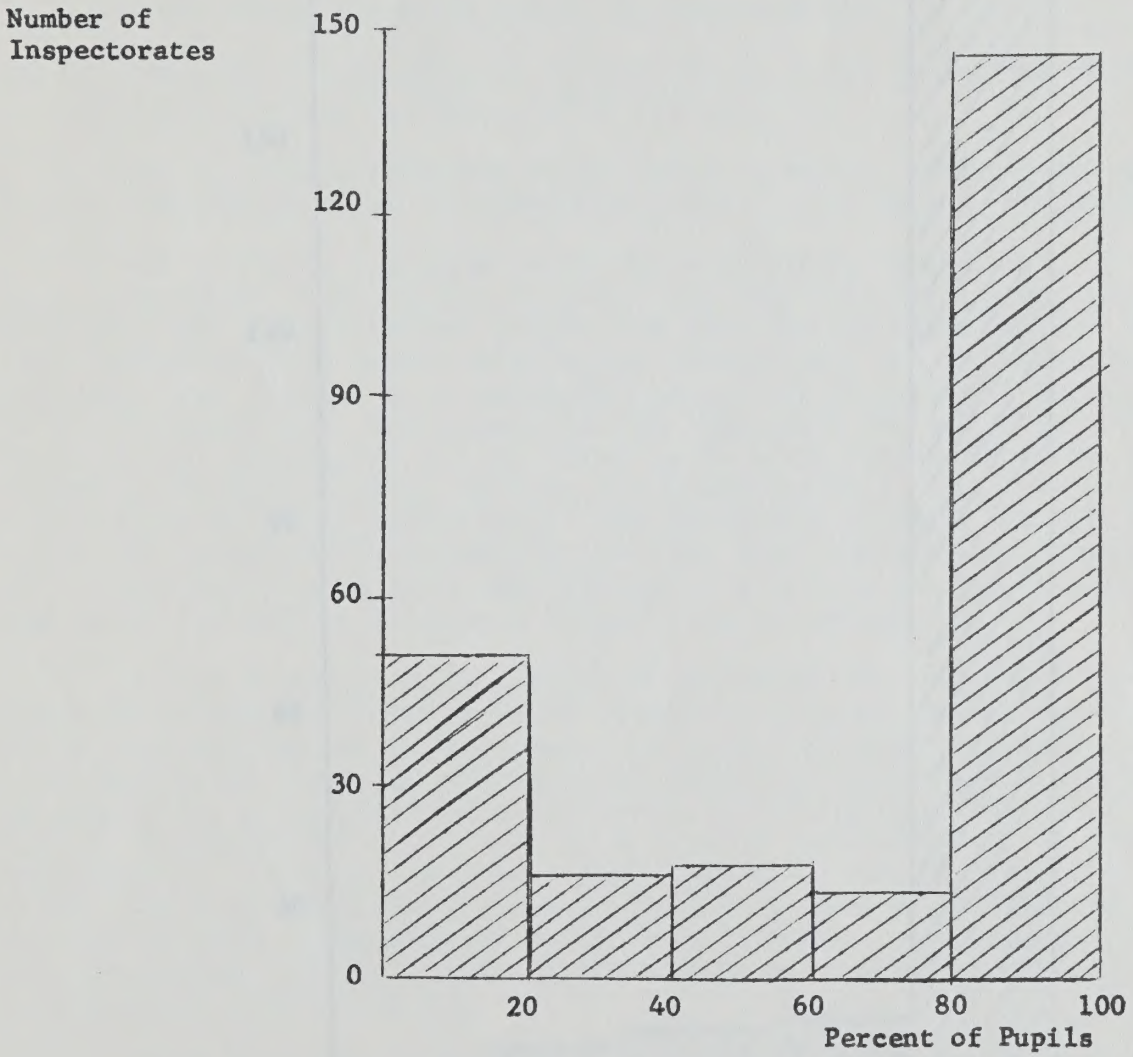
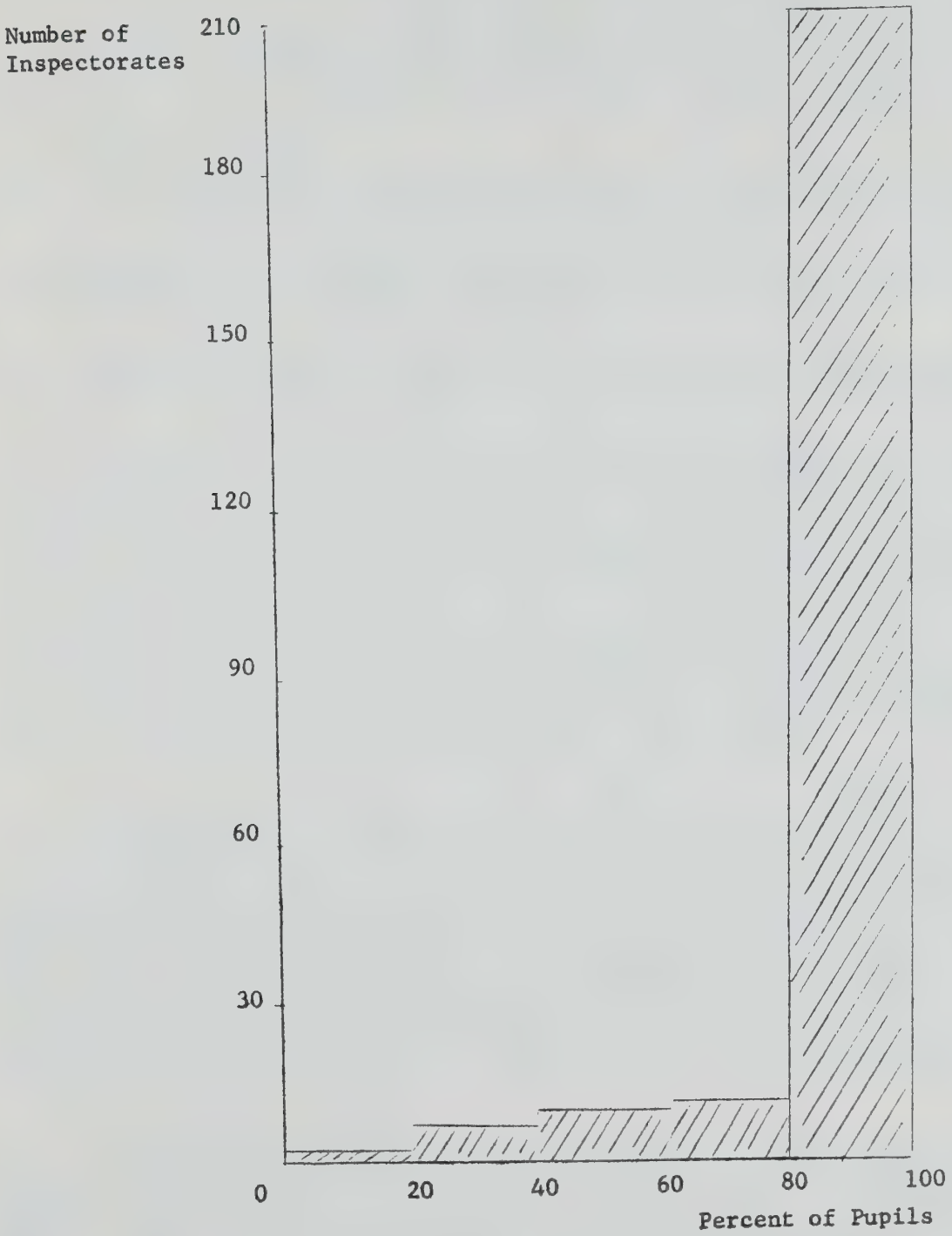
6. The distributions of 4 and 5 above are displayed graphically here:

(a) Number of Inspectorates with Various Percents of Pupils on Curriculum I:12A in 1964-65



(b) Number of inspectorates with various percents of pupils forecast as following Curriculum I:12A in 1965-66:



V Other Data Provided by the Questionnaire

As indicated above in section 4 of the Design of the Questionnaire, no directions were given about completion of the "Remarks" section. As expected, many inspectors left this section blank. But each of 172 inspectors entered a comment or comments in this section. Analysis of the 224 comments revealed a definite division into four categories only, as follows:

(a) Seventy-seven (77) volunteered information dealing with the past or future plans for introduction of new approach mathematics.

(b) Twelve (12) volunteered opinions as to when the Curriculum I:1 should be withdrawn for Grade 7.

(c) Seventy-eight (78) described the past, present, and/or future plans for in-service teacher education within the inspectorate.

(d) Fifty-seven (57) volunteered information as to the acceptance of the new course by pupils, teachers, and/or parents.

The 77 remarks indicated in (a) were, in effect, explanations giving further information about the answers to parts 2, 3, 4 of the questionnaire.

Ten of the 12 indicated in (b) favoured making Curriculum I:12A compulsory in September, 1965, giving in almost all cases the supporting argument of uniformity for the sake of the pupils when they reached Grade 9. Two suggested that Curriculum I: 12A remain optional for another year and become compulsory in September 1966 in Grade 7 and in Grade 8 (under the 2b option of Curriculum I:12B). In both of these cases the support for the suggestion was a plea for one more year of in-service opportunity for the inspector to reach certain teachers not yet reached by in-service work. Perhaps one should insert a warning here against generalizing from only twelve cases. One would have to point out that every one of the 163 inspectorates indicating less than 100% voluntary participation in 1965-66 would, if asked, be almost obliged to give some supporting argument similar to the two who did make a statement on the matter.

As far as education in general is concerned, the remarks of the seventy-eight who volunteered information on in-service arrangements may in actual fact be the most significant in the report, for again and again they tell a story of local inspectors accepting willingly, and surely not without some trepidation, the responsibility of implementing a curriculum and taking upon themselves the triple task of self-education, leadership in in-service beginning early in 1964, and extra care in classroom supervision since September 1964. Perhaps this is an object lesson in Departmental decentralization to local leadership, and in the necessarily close integration of curriculum, in-service education for teachers, and supervision. (A few samples of the remarks on in-service work are included in Appendix B of this report).

Those particularly interested in the reactions of pupils, teachers, and parents to New Approach Mathematics will be interested in the fifty-seven remarks dealing with acceptance of the new ideas. These are listed in Appendix C of this report. It is of course unfair to use unsolicited comments to prove anything,but when one links the over-all favourable nature of these comments with the statistics indicating the high degree of acceptance of the course, one surely can be excused for feeling exhilerated by the acceptance of New Approach Mathematics in its first real trial in Ontario elementary schools.

Appendix B

Some Sample Remarks about In-Service Education from the Questionnaires

1. Course outlines (prepared by Mr. Kinlin) and presented to (the Central Ontario) inspectors at the Lakeshore Teachers' College - March 16-17, 1964 (through arrangements between the Elementary Education Branch, the Curriculum Branch, and the Professional Development Branch) have been duplicated by this office and are being used as the basis for in-service instruction by the writer (the inspector) on Wednesday evening 4:30 - 6:00 p.m. for 10 weekly sessions.

2. During 1963-64 all teachers attended an in-service programme. This year we are holding monthly meetings plus special meetings.

3. During 1963-64 in-service work was conducted during several evenings by Mr. J. E. Smith and on two week-ends by Mr. Frank Kinlin (Friday night and all day Saturday). During the current school year in-service work is being conducted in two locations in the inspectorate.

4. The in-service education programme given (by the inspector) has encouraged many of the reluctant or insecure teachers to make a start on the use of Curriculum I.12A.

5. About sixty of my teachers attended a three-day session last August before school re-opening.

6. The high percentage of classes are using New Approach Mathematics as the result of

    (a) (Several) teachers attending the summer school
    (b) Sessions with teachers last spring and this fall arranged through the co-operation of public and separate school inspectors, principals, and Teachers Institutes.

7. All grade 7 and 8 teachers of the inspectorate are now attending a 15-week course in the New Approach Mathematics.

8. In conjunction with the Teachers Institute and the local secondary school I have set up courses for Grade 7 and 8 teachers. These...deal with both content and pedagogy.

9. I have organized an in-service programme in Grade 7 Mathematics for Grade 7 and 8 teachers of my inspectorate.

10. All teachers have taken at least one 10-week (2 hours per week) in-service training course.

...2

11. Monthly meetings are being held to pool problems and answer questions of the teachers of the Grade 7 course. Teachers of other grades also attend to gain an insight into the new ideas.

12. The teachers concerned participated in a ten-evening short course...(with the instruction) undertaken by local teachers who had taken the Departmental Summer Course of 1964.

13. A Mathematics Co-ordinating Committee has been set up to co-ordinate the work of the mathematics teachers in Grades 7, 8, 9, and 10. This committee meets weekly to provide direction for mathematics teachers in the inspectorate. This committee is composed of the head of the mathematics department at the high school, the principal of the Senior Public School, and teacher representatives.

14. Five meetings with each of the three groups (consisting of all teachers in the inspectorate) at which the Grade 7 course was covered as completely as possible have been held. 3/4 hours of school time (with the unanimous consent of all boards) and 1¼ hours of the teachers' time made a two-hour period for each of the fifteen meetings.

19. Teacher adaptation to the "new thinking" is reasonably good but requires considerable effort in particular instances.

20. The support and enthusiasm of our teachers in introducing Curriculum I.12A has been most gratifying.

21. A few misinterpretations have been encountered.

22. The majority of the pupils seem to be making the adjustment to the new approach in mathematics very nicely.

23. A number of classes are taking more time to complete the units than that suggested in Curriculum I.12A. It is felt that this will rectify itself next year when the teachers are more familiar with the content.

24. Teachers in this area are extremely interested in learning about and teaching the modern approach to mathematics.

25. Both the teacher and the pupils are finding this course interesting and stimulating.

26. The teachers in this inspectorate have accepted the challenge and are apparently enjoying the new approach as much as the pupils are.

27. The Grade 7 course received with enthusiasm by pupils and teachers. It has put new life into mathematics.

28. Teachers and pupils are very interested and appear to be making excellent progress.

29. The teachers and pupils enjoy the new course and are very enthusiastic.

30. The new programme is being well received.

31. I found that there was a tendency to cover the course too quickly without first reinforcing the basic principles.

32. As teachers gain a feeling of confidence they are proving eager to attempt the New (Approach) Mathematics.

33. The new (approach) mathematics course is providing a challenge to both the pupils and the teachers. In general, the course has received a good response from parents and the public at large.

34. There is a high degree of interest in the course.

35. Great enthusiasm has greeted the introduction of the Grade 7 Mathematics Course.

...3

36. Most of the teachers and pupils are quite enthusiastic concerning Curriculum I.12A.

37. It is too early to properly assess the whole course, but I have received favourable comments from teachers teaching the new course. Nearly all pupils prefer the new approach; greater interest and better success evident.

38. Pupils enjoying studying the new (approach) mathematics and are doing fine.

39. So far both teachers and pupils seem enthusiastic about the new course.

40. The pupils are quite enthusiastic about the new concepts in mathematics and obtain better results in monthly tests.

41. We are encountering little difficulty in implementing the new course.

42. As I have visited the senior rooms I have made it a point to seek the pupils' opinions on the new course. The great majority indicate that they prefer it to the former work because (a) it is more interesting, (b) it is easier. Even pupils in slower streams have responded well.

43. All are pleased with results to date.

44. Teachers and pupils are very interested.

45. In most classrooms the teachers appear to require more than the suggested time. This may be due to lack of experience (with the course).

46. The pupils seem to enjoy the new approach to mathematics.

47. The interest displayed by teachers and pupils in the new course in this inspectorate is commendable.

48. All (teachers) except two (generally incompetent ones) state that they find the new course interesting and stimulating.

49. Indications are that the whole of Curriculum I.12A may not be covered in all classes.

50. This Curriculum I.12A is being well received by both teachers and pupils.

51. Teachers in this inspectorate are enthusiastic about the new (approach) mathematics. Results to date are very encouraging.

52. High enthusiasm and interest has been shown for the new approach.

53. Some teachers hold back because they do not feel qualified but will call for help from colleagues.

54. Pupils like the new mathematics.

55. There is an eagerness on the part of the teachers to use the new approach in grades below 7.

...4

56. Some of the classes are making better progress than others due to the fact that some of the teachers have had a summer course in Mathematics while others have taken a much shorter instruction.

57. To date, no major difficulties have arisen.